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AGRICULTURAL HISTORY is designed as a medium for the publication of research and documents pertaining to the history of agriculture in all its phases and as a clearing house for information of interest and value to workers in the field. Materials on the history of agriculture in all countries are included, and also materials on institutions, organizations, and sciences which have been factors in agricultural development.

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AGRICULTURAL HISTORY

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VIRGINIAN AGRICULTURAL DECLINE TO 1860: A FALLACY

KATHLEEN BRUCE

Professors Edward Channing and Frederick Jackson Turner have given a gloomy picture of agriculture in Virginia in the first forty years of the American Republic. The planters might live penuriously, and, like Washington, weigh and balance every cent, but the odds were against them. They were struggling with a "worn-out soil" and a declining social organization, to which, according to Professor Channing, commercial warfare and the actual War of 1812 gave the death stroke.

The pessimistic picture is accurate for the late eighteenth and early nineteenth centuries, but because of the lack of monographic work based on the economic and social sources of Virginia, the national historians have not comprehended the rebound which followed close upon the decline. That ante bellum Virginia continued in a depressed condition to 1860, as is generally inferred, is a fallacy apparently substantiated by the post bellum poverty and apathy of the state which was the chief battle ground during 1861–1865 of a bitterly contested war. It would seem that the historians have mistaken a relative for an absolute decline, inasmuch as more intensive research reveals a vigorous reform in agriculture, the successful beginning of modern factories, and an extension of educational facilities. All these developments the War for Southern Independence rudely checked and long restrained. It is of the agricultural revolution in the period before 1843 that I shall now write, and for lack of space

I must confine myself to the revolution in the Tidewater district.[1]

The wars of the French Revolution followed by those of Napoleon created the preliminary to Virginian agricultural reform. Europeans cried for wheat, and its price jumped to two dollars and even two-fifty per bushel. For the first time in the history of the Tidewater, wheat began to take its place as an important crop. But still, old practices continued, and tobacco culture on unfertilized soils, driving the planters deeper and deeper into debt, continued to be the chief market crop, until President Jefferson's idealistic commercial policy and the War of 1812 forced the price of common tobacco to less than two dollars per hundred pounds. Then came a wholesale planting of wheat with no one stopping to think whether the soil contained the lime necessary for its growth. In spite of the crude methods of cradling and treading out wheat with oxen which left the grain full of weeds and dirt, thus producing a poor quality which only war made marketable, and in spite of the ravages of the Hessian fly and the inadaptibility of much of the soil which reduced the quantity, the Tidewater farmers stubbornly persisted in growing it until the ruthless season of 1825 compelled them to abandon wheat culture except on lands particularly suited to it.

Long before this, however, in the midst of the heartsickening depression which all attributed to President Jefferson's policy of closing American ports to the outside world, there occurred an event which constituted an epoch in Virginian agriculture. This was the appearance about 1808 or 1809, in a newspaper called *The Spirit of '76*, of a series of essays, which in 1813 were published in a small volume entitled *Arator*. The author was John Taylor of Caroline, known to most students of American history not as a pioneer agronomist, but as the earliest literary protagonist of States' rights. The first important work on agriculture written by a Southerner, *Arator* was eagerly read by almost every intelligent landowner in Virginia, and for many,

[1] This paper was read before the history section of the Virginia Social Science Association at Lynchburg, Virginia, in May, 1929. Its conclusions are based on research in the primary sources, chiefly the *Farmers' Register*.—Editor.

Taylor became and remained the sole authority. With a few flashing statistics, he shocked the Virginians into instant realization that their recent prosperity was artificial, that it had been created wholly by the European wars, and that unrelated to President Jefferson's acts, their agriculture was tragically declining. He then revealed—with perhaps too great optimism—modes of relief which awaited the industrious farmer.

Various individuals in Virginia had tried to improve the processes of agriculture before 1808. George Washington, notably a progressive farmer, corresponded at length with the famous English agricultural reformer, Arthur Young, who purchased for him the best seeds and ploughs to be had. "There are several (among whom I may class myself)," wrote the General, "who are endeavoring to get into your regular and systematic course of cropping as fast as the nature of the business will admit." He also interested himself in "Mr. Booker's threshing machine" and in plaster of Paris and reprimanded his overseers for not using the up-to-date harrows which he furnished them. Jefferson was an experimental though not a practical farmer, and lesser men like William Short of Surrey and the Prince George Cockes-James, Senior, of Bonaccord, and Thomas of Aberdeen—tried to improve their poor lands with marl. But Edmund Ruffin, the live-wire of the agricultural revolution, was probably exact when he declared that until *Arator* appeared all but a few great landowers left their farms to be managed by illiterate overseers, and that few even thought of improving with manures.

Perhaps John Taylor's great contribution to Virginia was that he incited her young men to study agriculture seriously and personally to direct their estates. His more technical contribution was to reveal to them the utility of vegetable material as manure and the two chief modes of vegetable manuring. He showed that the value of farmyard and stable manure may be increased indefinitely by adding vegetable material, like corn stalks and such offal, to animal matter. He also introduced his "enclosing system." This, in brief, was the non-grazing of fields, so that all vegetable growth, whether of clover or other artificial

grass or merely the common weeds, might be left to die and rot on the field. Thus fields became self-manuring.

The practice of using vegetable offal without regard to the admixture of animal matter, according to Edmund Ruffin, was a new doctrine to nineteen out of every twenty Virginians, and they became speedily converted to the practice. Moreover, he maintained that though a Scotch lord in 1707 advocated manuring by vegetable cover left wholly or in part to die and rot on the field, and though the principle was generally known in 1800, "the plan may be claimed as an improvement entirely Virginian in large and systematic use; and the first promulgation and extension of the practice . . . due to the mind and labors of John Taylor and especially to the publication of 'Arator'." In England where land was highly productive, fields rank with grass from the island climate, stock-raising profitable, putrescent manures prolific and cheap, and labor inexpensive, the system was uneconomic. In Virginia land was cheap, since it was both plentiful and exhausted, labor was dear, putrescent manures scarce, and no man could afford to employ them in large-scale fertilization.

John Taylor's work is the second preliminary to the agricultural revolution and marks the first great impulse to agricultural improvement in lower Virginia. Basic errors in his teaching do not affect his status as one of the great economic benefactors of Virginia for all time. Unfortunately, he recommended for general use methods applicable solely to poor lands, originally fertile and thus capable of considerable improvement by vegetable manures. Such were the sandy soils of his own Rappahannock district. He was ignorant of chemistry and of the value of mineral manures and scorned the use of marl or lime. Taylor's two principles of vegetable manuring could not alone have created a new birth of agriculture in Virginia.

In considerable number and without critical study men rose instantly to follow John Taylor, and many were the disillusions which enthusiastic Virginians suffered in the next decade. One of his most ardent followers was a boy of nineteen whose lenient guardian put him in absolute control of his landed estate in 1813. Already the young heir had been playing with the theories of

agriculture. Before he was sixteen he had swallowed Thomas Hale's *The Compleat Body of Husbandry* (Dublin, 1757) in four volumes. He next fell upon John Beale Bordley's *Essays and Notes on Husbandry and Rural Affairs* (Philadelphia, 1799). Though Bordley was an American, his book was as English as the earlier work, and, like those volumes, worthless to Virginia farmers. Luckily for Virginia, the two works turned a brilliant, original, and naturally scientific mind to the serious study of farming. This boy, Edmund Ruffin, blindly followed Taylor for six years. He then discovered that his laborious attempts to put the naturally barren lands of his Prince George farm on a paying basis had merely resulted in preventing a further decline. Worse still: his illusions were gone; his god was mortal.

Though previously scornful of Virginians who allowed themselves to be lured to the West, young Ruffin was about to offer Coggin's Point for sale and migrate with his youthful family when he chanced upon the recent American edition (1815) of Sir Humphrey Davy's *Elements of Agricultural Chemistry*. Although as ignorant of chemistry as Taylor was, Ruffin read the book with delight, and when he put it down, this sentence continued to challenge his thinking: "If on washing (for analyzing) a sterile soil, it is found to contain the salt of iron or any acid matter it may be ameliorated by the application of quick lime." The young man made crude experiments on bits of the Coggin's Point soil, but failed to find salts of iron or any mineral acid which would account for the poverty of his land. Then he suddenly divined that though it lacked mineral acids it might contain vegetable acids. These Davy had ignored, and Ruffin wondered if they might not embrace the same principle. The result was his discovery of the vegetable acid composition of the soil of large areas of Tidewater Virginia and of the neutralizing properties of a fine shell deposit called marl which nature, like the proverbial good fairy with a passion for disciplining mortals and for rewarding them if they reform, had prodigally tucked away in this naturally poor region. On acid soil, Taylor's fertilizing principles were unavailing. Neutralization enabled the soil to profit by manures and set Taylor's principles free.

In 1818, Ruffin began to experiment. As late as 1822 his former guardian jocularly suggested that the yawning excavation on the Coggin's Point farm would probably in time be known as Ruffin's Folly. Meanwhile, the first published report of the young man's experiments was attracting notice in *The American Farmer*. In 1826 he completed his famous *Essay on Calcareous Manures*. First printed in book form at Petersburg in 1832, it also appeared in four or five later editions. As challenging as *Arator* had been, it was more directly constructive.

A decade later Ruffin was lamenting that not half the persons were using marl who had access to it or at least were marling to little purpose. Yet when the census was taken in 1840, it was found that eighty-nine persons in King William County had used marl on a total of 9,370 acres, and this, Ruffin, basing his computations on answers to twenty-three questionnaires to individuals in various counties, estimated a clear money gain of $483,020. Its use in Prince George was even greater; there no farmer who had it close by had failed to take advantage of it. James City County showed the next oldest and most successful practice. It was also used extensively and profitably throughout the marl region in the counties of Surrey, Isle of Wight, Nansemond, Charles City, New Kent, Hanover, King William, King and Queen, Gloucester, and Middlesex, and in those counties which fringed the marl district, in proportion to the facilities offered. The general average increase in corn and oats was reckoned at 8 bushels, and of wheat 4 bushels, and the increase in the intrinsic value of the land fully 200 per cent. But the most skillful marling had increased the yield at the rate of 16 bushels of corn to the acre and about 8 bushels of wheat. It is the *relative* increase that is to be remarked and the low state into which agriculture had fallen. The average improved-lands in Prince George produced only from 15 to 25 bushels, but this was from two to four times as much as before they were marled. On the other hand, Dr. Theodorick Bland of Prince George increased his yield from 13½ bushels to 35 bushels per acre, and Dr. Corbin Braxton of King William, whose average was from 15 to 20 bushels before 1834, averaged 40 bushels per acre in 1838, 1839, and 1840.

Perhaps the most spectacular improvement happened around Williamsburg. Here, about 1820, in the counties of James City and York (except on some of their river lands) Virginian agriculture reached its lowest ebb. Lands actually sold for one dollar an acre; and three dollars an acre was considered a good price. Both counties were rich in marl, and the farmers accepted the the challenge to use it. The quick improvement reacted on the town of Williamsburg, where, according to a study made by Edmund Ruffin and printed in the *Farmers' Register*, lots and houses tripled in value, new houses were built, Bruton Church (to his sorrow) was reconstructed on modern lines at an expense of $3,000 and the enrollment of the College of William and Mary increased from 17 students in 1834 to 140 in 1839–1840. No wonder men like Carter Braxton of Newcastle Farm, Hanover, and John Selden of Westover, two noted progressive planters of the day, testified to "a revolution in the agriculture of our country," which they attributed in large part to the genius of Edmund Ruffin.

It must be kept clearly in mind that the fine shell-deposit marl, was not a fertilizer but a neutralizer for the soil. It counteracted acidity and enabled soils to profit by putrescent manures and to produce clover. Lime was a twin neutralizer, and in effecting the agricultural revolution, it was almost as powerful a factor as marl. The pioneer in introducing this significant agricultural improvement was Fielding Lewis, nephew of Fielding Lewis, the financial director of the small arms factory at Fredericksburg, Virginia, during the Revolution and the husband of Betty Washington.

It is not claimed that the younger Fielding Lewis was the first Virginian to use lime. Every book farmer knew of its profitable use in England and in Pennsylvania. Though men may have toyed with it in Virginia, it seems certain that Lewis was the first to introduce it on a large scale and with such success as to catch the imaginations of his neighbors and create a following. He married Agnes Harwood, heiress of Weyanoke, an estate of seven hundred acres on the lower James in Charles City County, in the general neighborhood of Curl's Neck, Shirley, Berkeley, Westover, and the Brandons, and in 1794 they took possession of the estate.

The Weyanoke lands were not only impoverished, they were heavily sanded, and thus of a type which an eighteenth century Virginian scorned.

Undaunted, young Lewis applied putrescent manures in great quantities. The sole effect was to keep the soil from further deterioration. He used a three field system, corn, wheat, and pasture. For twenty years no clover would grow on his soil. He produced about 15 bushels of corn to the acre, 8 bushels of rye, and from 5 to 6 bushels of wheat.

In 1816 he redistributed his three fields, each with 190 acres, into four fields of 98 acres and began to experiment with lime, but it was not until 1821 that he began to lime in earnest. He built a log kiln at Weyanoke and used oyster shells brought up James River 8 or 10 miles. He burned the shells in March, spread the lime when slacked on the well-ploughed fourth-year field, and in April planted it to cowpeas. When the peas ripened they were gathered, and cows were permitted to graze on the vines and pods left on the land. The next year he covered the field with putrescent manure and sowed it with clover. The clover grew on Weyanoke land for the first time since Lewis had been farming the estate. By 1833 he had limed 450 of his 600 arable acres. The yield of wheat for 1832 was 2,297 bushels from 98 acres. Under the old system his largest crop was 1,453 bushels from 190 acres. The average for twentieth century Virginia is 14.2 bushels of wheat to the acre, though the Commissioner of Agriculture reports that many fine farms yield 40 bushels. In 1833, Lewis, critically watching his crop, thought the yield on some of his land would be 30 bushels per acre.

Between 1816 and 1820 when Virginia was still thrilled by *Arator*, the young Harrisons, George and William, came into their great exhausted estates, Upper and Lower Brandon, inherited from their father, Benjamin. In 1816, young Hill Carter took possession of Shirley, which like the Brandons had been left to the management of overseers. All three youths, making agriculture, not politics, their profession developed into ardent scientific farmers. Toward the end of the 1830's, after a consistent use of lime, the Harrisons averaged from 35 to 37½ bushels of corn

to the acre and from 12 to 14 bushels of wheat, while Hill Carter had increased his total wheat crop from 1,400 to 5,900 bushels.

Thus, whereas marl was employed on large and small farms alike in at least thirteen Tidewater counties, the great planters of the lower James tended to follow Lewis rather than Ruffin. This was apparently because nature had not placed marl in that partly alluvial district; and to import the heavy marl was uneconomic. At any rate, by 1840 lime had been extensively used not only at Weyanoke but Sandy Point, Westover, the Brandons, and Shirley. And from families of notable political distinction were coming professional farmers and leaders of the agricultural revolution. "They are our Cokes and Blackstones," wrote an enthusiastic agriculturist who eagerly followed the discussions as they appeared in the *Farmers' Register*.

Specifically, what results may we say proceeded from the reforms of Taylor, Ruffin, and Lewis? Primarily, I think, this rousing of the more intelligent Virginians to the realization of scientific methods, to the knowledge of the rudiments of agricultural reform, and to the serious study of farming as a profession. A contribution of Edmund Ruffin, as significant as his *Essay on Calcareous Manures*, was his publication for ten years of the *Farmers' Register*, an agricultural journal which acted as teacher and a clearing house for Virginian agriculturists and which won the respect of agronomists throughout America. In the decade prior to 1833 when Ruffin launched his register, John Skinner's celebrated *American Farmer* performed a similar service for Virginians. Between 1820 and 1842 seventeen county agricultural societies were to be counted in Virginia, eight of them in the Tidewater. There was also the Agricultural Society of the Valley of Virginia (1825); the Central Agricultural Society and Mechanic Institute (1836); and the Society of Virginia for Promoting Agriculture (1839). The most ardent and the most scientific reformer of them all was disgusted with the ineffectualness of most of the county societies, but the coming together of fellow farmers and the premiums offered for the breeding of fine horses, neat cattle, hogs, and sheep, and for the highest yields of corn, wheat, barley, oats, peas,

potatoes, and hay, for which the members industriously competed, could hardly escape having a moulding effect.

By 1840 the change in the methods of tilling the land was no less revolutionized than that of the care of the soil. There were advocates for every system of rotation, but no man held dogmatically that his was the best. In a report to the State Board of Agriculture Edmund Ruffin declared that before 1817 ninety-nine acres in every hundred were broken by primitive one-horse ploughs; and half of the whole quantity with the trowel-hoe, or fluke-hoe plough; ploughing was rarely deeper than three inches and often less; harrows and their advantages were rarely known; wheat was almost universally trodden out by horses or oxen; and threshing machines(and inferior ones at that) were to be found on less than half a dozen farms on the James River. He doubted whether there were eighteen threshing machines in all eastern Virginia. But now, he said, men were erring in the opposite direction, and many in their eagerness to use the lastest improvement in ploughs, reapers, and threshing machines were being fooled out of their money. Good models were in general use, and even five-horse ploughs where the soil was more than eight inches deep.

By 1840 the obnoxious colonial fence law of Virginia was in part repealed, a State Board of Agriculture established, and agitation started for a state chair of agriculture and for an experimental farm. More revelatory still is the check, which one finds stated again and again, to western migration in those districts where agricultural improvement was uppermost. In 1842, in the preface of the third edition of the *Essay on Calcareous Manures*, Edmund Ruffin surmised that the use of marl and lime in Tidewater Virginia had probably increased the farmers' incomes by several hundred thousand dollars and the intrinsic value of the lands by as many millions. This would seem to be at least in part confirmed by the rise in land values from $80,000,000 or $90,000,000 in 1829 (the statement of Charles Mercer to the Constitutional Convention of 1829) to $211,930,538 in 1839 (the valuation under a state law of that year). Or if one suspects inflation in this period of a recent nationally disturbed currency, let him consider the still higher value of $216,401,543 announced in the United States census of 1850.

War and reconstruction stopped agricultural reform in Virginia for more than a generation and destroyed the memory of it. Today few Virginians know that there were scientifically minded planters and farmers in the Commonwealth before 1860. Perhaps nothing has more retarded her agricultural development both before and since the War for Southern Independence than what a modern agronomist calls the "delusive story" spread abroad "that her soils were 'worn out.'" "Dame Nature," he says, "has branded these statements to be false by taking hold of these abandoned fields and partially restoring them to a state of productiveness in a quarter of a century or less; but we now know that what it requires nature twenty-five years to accomplish, man can do in one-fifth of the time by intelligent care and cultivation and at the same time get something from the land." Today the ancient Tidewater, which many of us, born long after 1865, can remember only as one of the poorer sections of Virginia, is rapidly becoming one of the richest in the Commonwealth. From modern scientific practice it would seem that Edmund Ruffin did not overstress the value of marl. Was he a prophet? Or did he speak as an agricultural expert when in July, 1840, he wrote: ". . . by means of marling, the Tidewater region of Virginia is destined to become the most valuable agricultural region of the State, and one having agricultural advantages inferior to but few regions in the world"?

In the history of the agricultural revolution in Virginia lies one more evidence of the tragedy of the war of 1861–1865.

LARGE-SCALE FARMING IN ILLINOIS, 1850 TO 1870[1]

PAUL WALLACE GATES

The conventional view of the midwestern pioneer farmer cultivating his 160 acres of land may apply generally to agriculture in the Mississippi Valley. There were, however, deviations from the type. The cotton planter of Mississippi, Louisiana, and Alabama is the obvious exception but less is known of the large-scale farmer in the rich corn belt of Iowa, Illinois and Indiana in the fifties and sixties of the last century. In this study the means by which the large farms were built up in Illinois, the farming operations upon them, and their influence upon the agricultural development of the state will be considered.

Illinois was the first state where the pioneer settlers were confronted with great open stretches of untimbered land. Here, the pioneer, accustomed to his small hill-clearing in Kentucky, Tennessee, or New England, found extensive prairies, bare of timber, rich in fertility, and comparatively easy to cultivate. The early pioneers, totally unfamiliar with such broad open areas, were suspicious of these lands, reasoning that because they bore no timber their soil must be of inferior quality. Later settlers, however, realizing the error of the early comers, moved into the prairie sections, which proved to be immensely rich. Many of them abandoned their previous 160-acre concept of a farm and purchased or contracted for as large quantities of land as they could secure. Their operations provide the beginning of large-scale farming in Illinois.

As in the cotton states, the chief factor which enabled the farmer-capitalist to secure a large number of acres for farming was the generous land policy of the federal government. In the middle of the nineteenth century good land was to be had in Illinois

[1] A paper read on December 28, 1931, at the joint session of the Agricultural History Society with the American Historical Association in Minneapolis.

for $1.25 an acre. Moreover, it could be secured by using military land warrants for as little as 50 cents per acre. The warrants, which could be obtained from brokerage houses in New York and Washington in unlimited quantities, fluctuated in price between 50 cents and $1.15 an acre.[2] A study of the public land office records indicates that many of the large landowners and farmers in Illinois secured their land in this way.[3] The Graduation Law of 1854 likewise enabled settlers to secure large amounts of the public domain at low rates. With prices ranging as low as 12½ cents an acre, it is no wonder that land-hungry farmers bought large amounts. Furthermore, Illinois disposed of its education lands, its swamp lands, and its saline lands at prices well below the government minimum.[4] With such conditions prevailing, it was possible for a person with no large amount of capital gradually to acquire great tracts for farming. However, when settlers began moving into the various sections of the state, the land was taken up rapidly, prices mounted, and the acquisition of extensive holdings was no longer possible.

Another factor which contributed to the building up of large farms was the encouragement which the Illinois Central Railroad gave to individuals interested in so doing. This railroad, with its two and one-half million acre land grant, sold land in amounts ranging from 1,000 to 22,000 acres to individuals who wished to acquire large farms. To facilitate these purchases, generous credit terms extending over seven years and frequent extensions of time were granted.[5] The purpose of the railroad was, of course, to hasten settlement and to build up traffic for the road, but its policy also had the effect of making possible the creation of large farms in central Illinois.

A factor of perhaps as much importance in developing the large

[2] *New York Tribune*, February 5 and March 11, 1852.

[3] These records are on file in the State Auditor's Office, Springfield, Illinois.

[4] See the present writer's "The Disposal of the Public Domain in Illinois, 1848–1856," in the *Journal of Economic and Business History*, 3: 219 (February, 1931).

[5] This is dealt with in the present writer's "The Land Policy of the Illinois Central Railroad," in the *op. cit.*, 3: 554 *passim*.

farms in Illinois was the cattle industry. Many of the men who subsequently acquired large farms started out as cattle dealers in a small way. They bought cattle from stock raisers in Illinois, Iowa, and Missouri, and later Texas, drove them to their farms, generally located in the midst of large prairies, and there turned them loose to feed upon the rich prairie grass. Their original land holdings, usually situated on a stream, were small, but there was nothing to prevent their pasturing cattle on the unsettled prairies. With some additional stall feeding, the cattle were put into prime condition for market and sold for fancy prices in Chicago. The "cattle kings" of Illinois made considerable money in their business and used it to build up the great farms. This was made necessary by the inflow of population which was depriving them of the open prairies.

As one would expect, the large farms were established in central and eastern Illinois where the great prairies were to be found. Large-scale farming was most prevalent in Vermillion County where, in 1870, there were 23 farms containing over 1,000 acres each. McLean County was a close second with 21 such farms. Morgan County had 17, Edgar 14, Grundy 12, Sangamon 11, and Champaign, Christian, and Iroquois 10 each.[6] This concentration of farming land in the hands of a few farmer-capitalists was unexampled in the non-cotton producing states and seemed to many observers a new and alarming development. This alarm was expressed by an observer in Champaign County who remarked, in 1867, that the cattle, lands, and wealth of central Illinois were coming under the control of a few rich men.[7]

The successful operation of these large farms was made possible by the inventions and improvements in farm machinery which appeared during the fifties and sixties. In this period the reaper was perfected, improved corn planters were devised, the plow was adapted to efficient prairie farming, and the corn cutter and

[6] U. S. Bur. Census, Ninth Census of the United States, 1870, vol. 3, *The Statistics of the Wealth and Industry of the United States*, 340–350.

[7] *New England Farmer*, 1: 280 (1867).

stacker, the power sheller, the circular harrow, the cultivator and the ditching machine were either introduced or improved upon.[8] These, with other labor-saving devices which were being developed, made important changes in farming methods. Indeed, a careful observer estimated in 1864 that farmers could operate practically double the amount of land they had been able to utilize a few years before.[9] In recent years the tractor and combine have displaced large numbers of farm laborers; in the fifties and sixties, however, the development and use of farm machinery made possible the employment of relatively large numbers of men upon these great farms.

One of the largest and most interesting of these great farms was Broadlands, owned by Michael Sullivant. Sullivant had purchased 80,000 acres in Champaign, Ford, Piatt, and Livingston counties, the center of the corn belt, from the government and the Illinois Central Railroad. Twenty-three thousand acres of his holdings were in one block in Champaign County. Employing a force of one hundred to two hundred men, two hundred horses and mules, a large number of oxen, and a great amount of agricultural machinery, Sullivant proceeded to develop a farm on this tract. The entire area was fenced and subdivided into tracts of 640 acres or more. Eighteen hundred acres were planted to corn, 300 to winter wheat and 40 to oats. In one year he was able to sell 22,000 bushels of corn after retaining a large amount for use on his farm. In addition to the production of crops, five thousand cattle and four thousand run-down government horses were pastured on the farm.[10] Sullivant soon got into difficulties over payments due to the Illinois Central and was finally forced to sell his estate to John T. Alexander, a wealthy cattleman and farmer of

[8] *The Prairie Farmer* for this period contains constant allusions to improvements in and inventions of farm machinery. See also P. W. Bidwell and J. I. Falconer, *History of Agriculture in the Northern United States, 1620–1860* (Washington, 1925), ch. 23.

[9] Osborn to Heyworth, June 1, 1864, Osborn Letter Book, 1863–1865, Magazine Office, Illinois Central Station, Chicago.

[10] *Chicago Weekly Democrat*, May 13, 1854; *Chicago Daily Democratic Press*, March 6, 1855, quoting *Ohio Statesman*; *Prairie Farmer*, January 12, 1860; *Country Gentleman*, August 13, 1863; *Wisconsin Farmer*, 18: 93 (1866).

Morgan County, who continued to operate it on the same scale for some years.[11]

Sullivant then turned to a larger tract of 40,000 acres near Paxton which was still in his possession and began putting it under cultivation. He commenced by planting 1,000 acres of corn. Within five years he had 18,000 acres in corn, and 5,000 in other crops. The yield of corn husked in one year was reported to be 450,000 bushels. The amount of farm machinery necessary to perform work on this large scale is almost staggering. One hundred and fifty steel plows, 75 breaking plows, 142 cultivators, 45 corn planters, 25 gang-harrows, a ditching plow operated by 68 oxen and 8 men, an upright mower to clip the hedges and numerous power shellers were employed. The motive power for the movable machinery was furnished by 350 mules, 50 horses and 50 yoke of oxen.[12]

Alexander's management of Broadlands rivalled Sullivant's activities on his new farm. Additional land was acquired so that the farm included 26,500 acres in 1869. It was maintained primarily as a stock farm, 4,000 grazing cattle being kept on it in addition to 500 hogs; 150 acres were in grass, 400 in wheat, 140 in oats, 120 in rye and 5,000 in corn. To carry on operations on this large scale 160 men were employed while 120 yoke of oxen and 100 head of horses and mules were worked. In 1869 the managers expected to clear from all operations a net profit of $200,000.[13]

Both Sullivant and Alexander were attempting to apply modern methods of industry to farming by mechanizing operations and by carrying out the division of labor as far as possible. Tenant farming and crop sharing did not enter into their system. Their farms were the true forerunners of the highly mechanized farms of the Dakota and Kansas plains of today.

[11] Sullivant was reported to have sold Broadlands, including the stock, grain, hay, and farming implements, for nearly $500,000. See the *Prairie Farmer*, September 15, 1866.

[12] *Country Gentleman*, August 9, 1866, quoting *Cincinnati Inquirer*; *New England Farmer*, 1: 271; *Harpers Weekly*, September 23, 1871.

[13] *Prairie Farmer*, August 7, 1869; Letter of C. L. Eaton, Alexander's agent, to Capt. J. Brown and Dr. H. C. Johns, August 27, 1866, in the Illinois State Agricultural Society *Transactions* (1870) 7:135–136.

It is not generally known that Stephen A. Douglas, before his untimely death in 1861, was laying plans for a farm of this type just south of Chicago. From the government and the Illinois Central Railroad he had purchased 10,000 acres of land which had been avoided by settlers because of its low swampy nature. Douglas planned to drain this area and develop it into a grazing farm. His business judgement was shown to be excellent for within a short time after his death the land was valued at a much higher price than he had paid for it.[14]

An equally interesting but distinctly less modern type of large-scale farming was begun by E. E. Malhiot in central Illinois. Malhiot was a wealthy sugar planter of Lousiana who desired to establish a colony in Illinois for the benefit of his fellow countrymen, the French Canadians of Lower Canada. He also wanted to make the proposed colony a distributing center for the products of his Louisiana plantation. To carry out this idea, he purchased 22,000 acres of land in Christian County from the Illinois Central Railroad upon its generous credit terms. A town was laid out and construction was begun on a hotel, flour mill, packing house, and grain warehouse. The land was surveyed, building materials prepared and stock purchased. Teams and agricultural implements were forwarded as rapidly as possible and plowing and planting were begun. Within a year it was reported that one hundred French Canadians had settled in this locality.[15]

Malhiot's plan seems to have been to pattern this colony partly after his plantation in the South and partly after the old Canadian seigniory. He found it difficult, however, to do this in Illinois for the cheap lands and great opportunities for individual initia-

[14] "Register of Receipts," Chicago District, No. 4, 1846–1855, Public Auditor's Office, Springfield; Vol. 262, Land and Tax Commissioner's Office, Central Station, Chicago; Osborn to Perkins, May 12, 1855, Magazine Office, Central Station; *Chicago Weekly Democrat*, May 26, 1855; *Chicago Daily Democratic Press*, July 2, 1855.

[15] Wilson to Osborn, April 6, 1858; Osborn to Perkins, December 28, 1856, Magazine Office. See also Malhiot to Daggy, November 29, 1873, Sixteenth Street Archives, Illinois Central Railroad, and *Chicago Daily Democratic Press*, March 7, 1857; *Country Gentleman*, July 2, 1857; James Caird, *Prairie Farming in America* (New York, 1859), 68.

tive caused the laborers to become dissatisfied. Instead of continuing as mere agricultural laborers or tenants, as Malhiot had planned, the French Canadians demanded the right to purchase the land. They finally secured this privilege but in such a way that most of them were unable to acquire full title for many years. Moreover, the land was not subdivided at once but for the first few years was cultivated and managed as a unit. In response to the insistent demands of his tenants, Malhiot slowly turned the land over to them although the estate was not completely divided for more than twenty years.[16]

Although Malhiot failed to adapt the Canadian seigniory to Illinois conditions, other capitalist farmers were able to introduce tenant farming on a large scale. Indeed, in the future tenant farming was to be more important than the large-scale farming operations of such men as Sullivant and Alexander. The explanation of this development is that many capitalists who secured large blocks of land desired to retain their land though not to operate it themselves. This made tenant farming necessary. Frequently, in the beginning the owner would open up the land, manage operations for a few years and slowly turn the land over to the laborers who thus became his tenants.

Isaac and Jesse Funk, whose land holdings in McLean County, central Illinois, exceeded 30,000 acres, were among the first to introduce tenant farming in that region. These cattle kings were primarily interested in buying, fattening and selling cattle and in raising sheep, hogs, and draft animals. Isaac Funk, who alone owned over 25,000 acres of rich land, had 1,600 cattle, 500 sheep, 500 hogs, and 300 horses and mules on his farm in 1861.[17] In 1863 he had 3,000 acres in corn besides smaller amounts in other grains.[18] Much of his land was rented to tenants on shares. If the tenant furnished his own tools he paid but two-fifths of his produce as rent, but if Funk provided the tools the crop was divided equally between tenant and landlord. Both brothers were

[16] Malhiot to Daggy, April 8, 1873; Abbott to Daggy, May 29, 1874; Trottier to Daggy, April 25, 1876; Paine to Daggy, March 24, 1879, Sixteenth Street Archives, Illinois Central Railroad.

[17] *New York Tribune*, July 30, 1861.

[18] *American Agriculturist*, 22: 263 (September, 1863).

successful in their farming and cattle operations but to Isaac came the greater profits. At his death in 1865 his estate was valued at two million dollars, no small fortune to be built up in frontier Illinois.[19] The example of the Funks in introducing tenant farming in McLean County was widely followed by other large landholders. In 1880, the first year for which we have statistics on tenant farming, 36 per cent of the farms in the County were being operated by tenants.[20]

Perhaps the greatest impetus to tenant farming in the Middle West was given by William Scully who owned 200,000 acres of land in the states of Kansas, Nebraska, Missouri and Illinois. Scully bought 46,000 acres in Logan, Sangamon, Grundy, and Livingston counties, Illinois, laid them out in tracts of 160 acres and invited fellow Irishmen to settle upon them or made arrangements with squatters already upon them to become tenants. Although part of the land in Illinois was subsequently sold, 30,000 acres were retained by the Scully family and have been farmed ever since by tenants on a cash basis. Scully's extensive holdings and his peculiar type of lease aroused much opposition in Illinois and led to legislation directed against absentee ownership.[21] Although the legislation had little practical effect, it indicated the growing resentment at the concentration of land ownership.

The last of the larger capitalist-farmers to be mentioned here is Jacob Strawn who owned and operated, either through tenants or laborers, over 20,000 acres in central Illinois. Like the Funks and Alexander, Strawn was primarily interested in the cattle trade but to provide grain for his stock he had to engage in large scale production. His chief grain crop was corn to which he had planted 7,000 acres in two fields.[22]

[19] *New York Tribune*, July 30, 1861; L. H. Kerrick, "Life and Character of Isaac Funk," in the McLean County Historical Society *Transactions* (1903) 2:501–505.

[20] Computed from the Census of 1880.

[21] *Illinois Central Magazine*, April, 1931, p. 25–26; N. S. B. Gras, *History of Agriculture in Europe and America* (New York, 1925), 269–272; E. L. Bogart and C. M. Thompson, *The Industrial State, Centennial History of Illinois* (Chicago, 1919), 220–221.

[22] *Illinois State Register*, March 2, 1854, quoting the *Chicago Democratic Press*; *Country Gentleman*, September 21, 1854; *Prairie Farmer*, November, 1854; *New*

It should be emphasized that large-scale farming in Illinois was the exception, not the rule, and this was particularly true of these great farms of 20,000 or more acres. Usually the large farms did not exceed 4,000 to 6,000 acres. The most publicized of all the farms in this group was that of Benjamin F. Harris, another of the cattle kings of Illinois. The extraordinary size of Harris's cattle, which were offered to packers at Chicago and in eastern cities, won wide fame for him and led to the publication of frequent items on his farm and cattle in the agricultural journals and newspapers. Harris's chief interest was the fattening of cattle for market. The largest part of his 4,000 acre farm at Urbana in the Grand Prairie was used for pasture but grain crops were raised on a large scale. In 1855 Harris had 700 acres in corn, which averaged 65 bushels to the acre, besides smaller areas in oats and wheat.[23]

Another interesting farm in this group was that of Lemuel Milk of Chebanse. On a farm of 5,365 acres Milk had 2,500 acres in timothy, 1,000 acres in other crops, and 40 acres in orchard. He pastured 3,000 sheep, 1,500 to 2,000 cattle and 1,500 hogs.[24]

Less spectacular than the great farms of 4,000 acres and over, but nevertheless a new phenomenon of interest to many people moving into the Prairie State, were the farms ranging in size from 1,000 to 4,000 acres. It seems probable that of the 302 farms in Illinois in 1870 of 1,000 acres and over the largest number was in this group. The operations of two individuals in this group are interesting because of the emphasis they placed on stock improvement.

On a farm of 2,250 acres in Sangamon County, James N. Brown had 480 acres in corn, 120 in wheat and oats, 150 in grass and 250

York Tribune, clipped in the *Mining Register and Pottsville Emporium*, June 23, 1855.

[23] *Prairie Farmer*, December 6, 1852, July, 1855; *Albany Knickerbocker*, clipped in the *Freeport Bulletin*, May 29, 1856; *Illinois State Register*, March 20, 1856; *Chicago Press*, clipped in the *Horticulturist*, 11: 240 (1856); William Ferguson, *America by River and Rail* (London, 1856), 376–377; Caird, *op. cit.*, 74; Mary Vose Harris, "Autobiography of Benjamin Franklin Harris," in the Illinois State Historical Society *Transactions*, 1923: 72–101.

[24] *Sectional Maps Showing the Location of over 2,595,000 Acres of Selected Farming and Wood Lands in the State of Illinois* (Chicago, 1867), 66.

in timber. The remainder of the farm was pasture on which were kept 350 sheep, 50 cows, 500 steers, and from 200 to 300 hogs. Brown was a thorough believer in keeping the best stock and following careful breeding methods. Shorthorns were his favorite breed and to improve the strain he imported registered bulls from England.[25] He was one of the chief promoters of the Illinois Stock Importing Association, being its first president. Through the efforts of this organization there were purchased in 1857 in England and brought to Illinois 27 blooded cattle, which sold for as high as $3,025 and, in addition, a larger number of breeding sheep, hogs and horses.[26]

Brown's activities were closely paralleled by the operations of John Wentworth at his Summit Farm in Cook County. This farm included 2,500 acres, most of which was used for pasture and the raising of grasses for cattle. Wentworth was the chief promoter of the Illinois Breeding Association, Summit Farm being its headquarters. Pure-blooded Devon, Durham and Shorthorn cattle, Merino sheep and Suffolk hogs were imported and used to establish a breeding business. By 1863 there were on this farm 250 cattle, 200 sheep, 18 sows, 3 boars, and 60 horses which were used mostly for breeding purposes.[27] Farmers throughout the Northwest purchased stock from this farm.[28]

Sheep raising in the Northwest had been branded as unprofitable by Horace Greeley, but James McConnell of Springfield proved that sheep could be raised successfully in Illinois. On his farm McConnell pastured between 17,000 and 21,000 sheep and was considered the greatest sheep raiser in the country. He imported pure Merino rams from Germany and Spain to improve his flock.[29] Sir James Caird, a prominent English agricultural

[25] *Prairie Farmer*, January 3, 1856, quoting the *Illinois State Journal*; Caird, *op. cit.*, 59–61.

[26] An account of the activities of this Association may be found in the Illinois State Agricultural Society *Transactions*, 3: 301–304.

[27] *Boston Cultivator*, clipped in the *Country Gentleman*, August 6, 1863.

[28] The *Prairie Farmer* frequently mentions sales of pure-blooded stock by the Illinois Breeding Association. See *ibid.*, January 1, July 23, 1857, February 2 and June 14, 1860.

[29] *Illinois State Register*, June 29, 1854; *Country Gentleman*, December 11, 1856.

authority who visited Illinois in 1858, gives considerable attention in his travel account to the operations on this farm.[30]

The last farm to be mentioned here is that of W. C. Flagg of Alton, which contained 1,100 acres. Flagg's farm is perhaps typical of many of the larger tracts possessed by settlers in Illinois. Of the entire amount, but 300 acres were under cultivation in 1864 while the remainder was in woodland, meadow or pasture. It is true that Flagg had set out an orchard of 80 acres but, like so many Illinois farmers, he had brought more land than he was able to use.[31] This situation was frequently observed by visitors who commented on the large farmers who were "land poor."[32]

Perhaps enough detail has been given to indicate the grand scale on which these capitalist-farmers were carrying on their activities in Illinois in the fifties and sixties. Their spectacular operations did much to influence Illinois agriculture. Generally they were the first to introduce new farm machinery and by extensive use helped to popularize such improvements. They did much to establish the one-crop system in the corn belt, as corn was necessary for the cattle trade in which most of them were engaged. They imported pure-bred stock from England and the Continent which the small farmer, with his meager capital, was unable to do. They were able to ditch and drain large areas of wet land which the state and counties refused to develop and which it did not pay farmers operating 160 acre units to acquire. In many cases these large farms had a higher yield of corn and wheat per acre than the average due to better and more scientific methods. These capitalist-farmers opened up neglected sections of Illinois and hastened the agricultural development of the state, which became, as early as 1860, the premier state in corn, wheat and oats production.

After 1870 the large farms of Illinois tended to break up. The increasing value of the land made necessary its more intensive use

[30] Caird, *op. cit.*, 62–64.

[31] *Country Gentleman*, May 11, 1865.

[32] Samuel P. Boardman, "Sheep Husbandry in the West," in the U. S. Commissioner of Agriculture *Annual Report* for 1862, p. 288.

and it was no longer profitable to use large amounts of prairie land for pasture in competition with the open plains of the trans-Mississippi west. The Funks, the Strawns, and the Alexanders of the future were to be found not in Illinois but in Texas, Kansas, Iowa and Oklahoma. As the center of the cattle industry passed beyond the Mississippi the large farms of Illinois, which had been brought into existence by the cattle trade and which had continued to be based upon it, were slowly broken up or let out to tenants. Mixed farming and crop rotation, to which the small farm unit is admirably suited, were gradually replacing cattle grazing and the one-crop system, concomitants of large-scale farming.

EARLY BONANZA FARMING IN THE RED RIVER VALLEY OF THE NORTH[1]

HAROLD E. BRIGGS

Throughout westward expansion and the development of the middle west, wheat has been an important frontier crop. Pioneer settlers chose this crop because it employed most efficiently the productive forces involved, namely land, labor and capital. On the frontier, land was either free or very low in price, thus enabling the farmer to extend the use of a given amount of capital and labor over a large acreage. Wheat growing as an extensive type of cultivation was therefore very attractive.[2]

The pioneer farmers of the Valley of the Red River of the North began to raise wheat on a small scale in the early seventies and the bringing-in of a horse-thresher in 1874 by the Hudson's Bay Company tended to increase the acreage. During the same year Henry A. Bruins, one of the earliest merchants at Moorhead, Minnesota, erected a flour mill. The output of the mill soon demonstrated that Red River wheat was of superior quality for making flour, as its entry was awarded the first premium at the Minnesota State Fair for two consecutive seasons. Bruins claimed to have shipped the first carload of wheat from the Red River country to Lake Superior in the fall of 1873.[3]

After the failure of Jay Cooke and Company in 1873, J. B. Power of the Northern Pacific Railway worked out a plan for the

[1] A paper read on December 28, 1931, at the joint session of the Agricultural History Society with the American Historical Association in Minneapolis.

[2] C. W. Thompson, "The Movement of Wheat Growing," in the *Quarterly Journal of Economics*, 18: 576 (August, 1904); [P. Bigelow] "The Bonanza Farms of the West," in the *Atlantic Monthly*, 45: 33–36 (January, 1880).

[3] *Saint Paul Pioneer Press*, September 27, 1877, October 4, 11, 1878; *Yankton Press and Dakotian*, May 17, 1878; John Lee Coulter, "Industrial History of the Valley of the Red River of the North," in the North Dakota State Historical Society *Collections* (1910) 3: 535–542.

selling of the company's land in small lots to actual settlers. His project failed, but he planted the seed of an idea that within a few years developed the so-called bonanza wheat farms of the Red River country. In 1875 a number of the bond holders of the Northern Pacific, having determined to save what they could, exchanged their bonds, then worth ten cents on the dollar, for a great block of land in the Red River Valley. George W. Cass, president of the Northern Pacific Railway, through Power, exchanged bonds for a tract of eight sections of land about twenty miles west of the Red River. The amount was later increased to ten sections. E. P. Cheney, prominent in the express business, but also a heavy holder of Northern Pacific securities and a director of that corporation, took over eight sections adjoining that of Cass. Power was authorized to select the land and to have a large area of it prepared for wheat at an early date.

In the spring of 1875, Oliver Dalrymple, an experienced wheat grower of Minnesota, examined the land and entered into a contract with the owners to take charge. He broke 1,280 acres during the summer, and his first harvest in 1876 yielded 32,000 bushels of choice wheat. As soon as the results of the experiment became known the Red River region was widely advertised.[4] A St. Paul editor, writing in the fall of 1876, spoke in glowing terms of the Red River project and described in some detail the methods of bonanza farming.[5]

Conditions were ideal in the Red River Valley in 1876 for the development of wheat as a single crop, and a distinct shift from diversified or mixed farming to large-scale wheat production took place. It is not difficult to explain why the new system came into existence. Cheap land was an important factor, and the government, at this time, had reached the most liberal period in its public land policy. The peculiar financial straits of the Northern Pacific Railway had forced it to place its lands on the market at

[4] *Dakota Republican*, July 14, August 21, September 3, 10, 1876, September 16, 1878; *Bismarck Tribune*, April 4, 1878; George N. Lamphere, "History of Wheat Raising in the Red River Valley," in the Minnesota Historical Society *Collections* (1900–04) 10: 2–6.

[5] *Saint Paul Pioneer Press*, September 6, 1876.

low prices. The composition of the soil, the topography, the precipitation, and the climate were advantageous to large-scale farming. Advertising was a special force, and the Red River country was boomed as the "Nile Valley of the American Continent," and the "Land of Number One Hard Wheat." The railroad companies and the bonanza farms thus placed it in the limelight. After the close of the panic of 1873, large amounts of Eastern capital were seeking investment, resulting in excellent transportation facilities and available money for the operation of large wheat farms.

The ever-increasing demand for American flour, especially for that manufactured from hard spring wheat by the new patent process, was another factor. The new process, using the middlings purifier, made it possible to produce a fine grade of flour at one grinding. There was also the great influx of immigrants from the agricultural districts of northern Europe who were looking for opportunities to establish themselves. They were ambitious to become farmers and land owners and were attracted to Dakota and the Red River Valley. A large number of young people from the northern states were moved by like motives. A large supply of transient labor was a prerequisite for the success of the large-scale wheat farms and was at that time available.

The increasing price of land farther east, the nearness of the region to Lake Superior, with the comparatively low freight rates to wheat centers, made the older wheat-growing districts practically non-competitive, or set the marginal cost of production at such a high point that the profit from wheat in the Red River country was exceptionally large. The fact that the soil in the older districts was depreciating in fertility when compared with the new lands farther west was a potent force. The freedom of the Red River region from grasshoppers after 1875 was another factor. No new enemy to wheat production appeared in the new areas, while in the older districts, the Hessian fly, the chinch bug, the army worm, rust, blight, and smut were common. The opportune perfection or invention of time-saving machinery and other equipment necessary to successful large-scale farming, just at a time when the Red River country was reached by the ad-

vancing frontier, was a powerful force, the value of which it is difficult to estimate.[6]

In 1877, Dalrymple seeded 4,500 acres of wheat which yielded twenty-five bushels per acre. In the same year the Grandin brothers of Tidioute, Pennsylvania, secured nearly one hundred sections of Red River land and contracted with Dalrymple to manage it. Governor H. Pennington of Dakota Territory in September, 1877, made the following observation on wheat raising: "Along the line of the Northern Pacific Railway west of Fargo for twenty miles or more the wheat fields stretch out on both sides of the road as far as the eye can reach. At Casselton, eighteen miles west of Fargo, we could see eight threshers going in different directions, and were told by Oliver Dalrymple that the yield ran from twenty-five to thirty bushels to the acre. Dalrymple and his associates have 7,000 acres in wheat this year and next year propose to have 12,000 acres."[7]

In 1880 there were eighty-two farms in the Red River Valley, each of which contained more than 1,000 acres. A large number of them exceeded ten sections. There were one hundred and sixty-four farms under 1,000 acres, but at least one section in size. The larger farms were of two types: those established by corporations and those owned by individuals. The Sharon Land Company, with more than thirty thousand acres, north of Casselton, Dakota, represents the first type; while the farm of J. P. Watson, with 20,000 acres south of Casselton, is an example of the other. In addition to the Grandin, Cass, and Cheney farms aggregating 55,000 acres and managed by Dalrymple, there were the Lockhart and Keystone farms in Minnestoa, and the Dwight, Fairview, Keystone, Cleveland, Downing, and Antelope farms in Richland County, Dakota. Most of the large wheat farms were on the Dakota side of the Red River.

[6] *Estelline Bell*, January 5, 1884; *Fargo Times*, April 5, 1879; Coulter, *op. cit.*, 594–596; Bigelow, *op. cit.*, 33–36; C. C. Coffin, "Dakota Wheat Fields," in *Harpers Magazine*, 60: 529–535 (March, 1880); Thorstein B. Veblen, "The Price of Wheat since 1867," in the *Journal of Political Economy*, 1: 68–75 (January, 1892).

[7] *Report of the Territorial Governor of Dakota to the United States Commissioner of Agriculture, September, 1877*, p. 1–3.

By 1880 the movement toward extensive wheat production had only got a good start. There had been four crops on the Dalrymple farm while most of the other large units had produced only one or two crops. All of them were as yet in the southern half of the Red River Valley, or within reasonable distance from railroad or river navigation. With the rapid movement of railroad building into the northern half of the valley and the development of lines subsidiary to the Northern Pacific, the opening of large wheat farms continued unabated. By 1885 nearly all of the original large farms had been established. The census of 1890 showed 323 farms exceeding 1,000 acres and 1,253 with over 500 acres.[8]

The cultivated land on the large wheat farms was subdivided into tracts of about two thousand acres, each being managed by a superintendent and a foreman, with its own set of books. Each tract had its own buildings, consisting of houses for the superintendent and foreman, granaries, tool houses, stables and machine sheds. To carry on the work of every unit of a large farm required a large number of men and horses, and much equipment. The Grandin Farm consisted of thirty-eight thousand acres, about twenty thousand of which were under actual cultivation. It was divided into two large farms which were subdivided into smaller areas each managed by a foreman. An aggregate of some three hundred men was employed, while three hundred horses, one hundred plows, fifty seeders, seventy-five binders, ten separators and ten engines were used.[9]

The first operation in wheat farming was breaking the prairie sod. This work was usually completed before the middle of July in order to give the sod time to become thoroughly rotted for the second plowing which was begun in September. This backsetting or cross-plowing, as it was sometimes called, was often continued until the ground froze in November. Dalrymple estimated that the breaking cost was about $2.50 per acre, while the

[8] U. S. Bur. Census, *Reports* for 1880 and 1890; *Bismarck Tribune*, April 5, 1879, May 11, 1880; *Valley City Times*, March 21, 1881; *Fargo Times*, November 8, 1879; Coulter, *op. cit.*, 570–575.

[9] *Fargo Times*, April 5, 1879; *Valley City Times*, March 21, 1881.

second plowing was put at $1.75. During the first few years the single walking plow or the sixteen-inch sulky plow was used on both the large and small farms, but by 1879 the gang plow began to displace the single plow, especially on the larger farms.

After the plowing was completed in the fall, practically all work was suspended until March when seeding began. Prior to the late eighties the eight-foot broadcast seeder was used almost universally in the Red River Valley. It was drawn by two horses and sowed about twenty acres per day. About eighty pounds of seed were used per acre. After the seeder came the harrow, which was used at least three times before the wheat sprouted. In average years the wheat was ready to cut by the early part of August. The harvester was generally of the Marsh type, with an endless canvas elevator, packers and wire binder attached. Twine took the place of wire after 1880.

A dozen or more of the binders were superintended on the large farms by a field foreman on horseback. A wagon hauled twine and other supplies, while a machinist with "extras" and other necessary equipment was near at hand. After each brigade of harvesters came the shockers. The grain on the large farms was never stacked, and on the day that the cutting of grain was finished the threshing began. The first grain cut was thoroughly cured in time to begin operations at once. Steam engines were used from the first and the separator was the modern combined thresher, separator and straw elevator. The self-feeder and attachment for cutting bands came in at a later date. Under favorable circumstances a machine would thresh and clean about one thousand bushels of wheat per day, but the average performance was from seven hundred and fifty to eight hundred bushels. The price of a separator was about six hundred dollars, while the engine cost around eight hundred dollars. The typical threshing crew consisted of twenty-three men, under a foreman, and ten teams of horses. This size of crew would clear about fifty acres in a day.

A large part of the wheat crop of the Red River country was marketed soon after it was threshed. This was done for two reasons: it was necessary to realize the proceeds as soon as possible, and there was leisure time for hauling during the autumn

months when the roads were usually in good condition. The grain hauled to the railroad was immediately shipped to Duluth or Minneapolis. At that time cars carried about four hundred bushels of wheat. Some grain, however, was stored in granaries or private elevators to await an improved market. The straw was burned, except a few stacks saved for litter. All the teams were then put to plowing the stubble and back-setting or cross-plowing the new breaking. When frost stopped operations or the plowing was completed, the extra men were discharged, a few being retained to do work about the barns and buildings.[10]

Most of the large farmers of the Red River district restricted their crop to wheat and usually purchased their provisions in outside markets. "When I came to Dakota in 1883," said a Fargo editor, "everybody's attention seemed to be directed to the raising of wheat. No cheese, a little butter, and a small percentage of the meat consumed by the settlers and workers was produced west of the Red River. Tons and tons of hams, shoulders and spiced roll, and pork in many forms and canned meats of every kind were shipped in. Tons of cheese, butter, and butter substitutes were sold to the large wheat farmer. During the busy seasons many had their vegetables shipped by express from St. Paul. This importation of foodstuffs was largely concentrated in the 'Bonanza Wheat Farm' section and the smaller farmers continued to produce at least enough for their own use except during harvest and threshing time, when even they bought large quantitites of supplies. The hired help demanded good food and lots of it."[11]

Although few of the large farms produced their supplies, the

[10] U. S. Bur. Census, Eleventh Census of the United States, 1890, *Report on the Statistics of Agriculture in the United States*, p. 379; William Allen White, "The Business of a Wheat Farm," in *Scribner's Magazine*, 22: 531–548 (November, 1887); Letter from A. M. Anson of Cass County, Dakota, dated October 6, 1882, and printed with the title "Harvesting Wheat in Dakota," in the *Cultivator & Country Gentleman*, 47: 841 (October 26, 1882); Louis Bernard Schmidt, "The Westward Movement of the Wheat Growing Industry in the United States," in the *Iowa Journal of History and Politics*, 18: 396–412 (July, 1920).

[11] *Fargo Daily Republican*, November 23, 1883; *Devil's Lake Democrat*, December 11, 1884.

managers of the large enterprises had many advantages over the smaller farmer because their equipment cost much less in proportion to the size of the farm and could be used to better advantage. Lumber was purchased at wholesale rates and machinery was bought directly from the manufacturer. The new equipment for the Grandin Farm for 1878 included 38 plows, 35 sets of harness, 17 seeders, 27 binders, 52 wagons and 5 threshing machines. By direct purchasing a saving of at least a third was made. In most cases horses and mules were bought on the large central market at St. Louis, even as many as one hundred in a single year at a total cost of $15,000.[12]

Aside from the first outlay the largest item of expense in the production of wheat on the large farms was labor. As the Red River wheat fields were located five hundred miles from Chicago, with railroad fare at five cents a mile, and with the demand for labor being limited to a large number of men for a short time, a difficult problem might be expected. During the seeding period in the spring, which lasted about a month, the Grandin Farm employed a hundred men to drive seeders and about fifty on harrows. There were extra men to haul seed and to do odd jobs. After the seeding period there was a lapse of work, and the number of employees dropped to fifty or seventy-five men. They plowed or made hay until harvest time, which began around August first. During the harvest a crew of about three hundred and fifty to four hundred men was needed, and a still larger one was needed for threshing. About four hundred men were needed to man sixteen threshing outfits. In 1879 twenty-one machines were used on the Grandin Farm. After the threshing, seventy-five to one hundred men were kept through the plowing season.[13]

The employer's big problem was to obtain men when they were actually needed, while that of the laborer was to find employment during the remainder of the year. Many writers of magazine

[12] *Valley City Times*, December 9, 1880, December 28, 1882; *Fargo Daily Times*, November 11, December 16, 1881, June 3, 1882; *Watertown Times*, July 7, 1879; Lamphere, *op. cit.*, 21–22, Coulter, *op. cit.*, 585–592.

[13] *Fargo Times*, April 5, 1879; *Pembina Pioneer*, August 7, 1879; *Northern Pacific Times* (Valley City), June 19, 1879.

articles and newspaper editors seem to have had the impression that most of the men employed on the large wheat farms were hoboes, bums and tramps. One editor commenting on the labor situation said: "The wheat growing industry employs tramps and hoboes who vanish when the harvest is over, instead of increasing the permanent population." A Fargo editor in August, 1880, wrote: "For a week or more the streets of Fargo have been thronged with strangers, most of them roughly clad, and having the appearance of vagabonds. Their presence here has caused serious apprehensions of trouble among our citizens, and the city authorities have been urged to take every precaution to prevent trouble. Every mail brings in reports of crimes and outrages committed by tramps in other sections of the country." A Valley City editor on August 24, 1882, under the heading 'The Tramp Nuisance', made a plea for additional police protection.[14]

In spite of such reports only a few of the workers were tramps or idle wanderers, and a contemporary observer writing in the summer of 1882 emphasized the point: "Of course with the influx of harvest hands come a large proportion of honest, hard working men, but it cannot be denied that with them come also a few who would not scruple at the commission of crime, and it is of the latter that our city authorities should take notice." Most of the workers were small farmers and homesteaders, or laboring men from the cities who came west for the harvest season only, lumberjacks from the lumber camps of northern Minnesota and Wisconsin where they were employed during the fall and winter months, and college men out for the summer to earn their way through the next academic year. A conservative estimate is that perhaps ninety per cent of the laborers were honest, industrious working men.[15]

The average wage for workers in the wheat fields was about $18

[14] *Northern Pacific Times*, November 25, 1880; *Valley City Times*, August 24, 1882; *Fargo Times*, August 5, 1880.

[15] Letter by J. D., printed under the title "Dakota as a Farming Country" in the *Cultivator & Country Gentleman*, 47: 46 (January 19, 1882); Letter by M. M. F., printed under the title "Agriculture in Northern Dakota," in *ibid.*, 50: 473 (June 4, 1885).

per month with board, room and laundry, a foreman or pace-setter receiving $20 to $25. During the rush periods the average monthly wage was as high as $20 to $22, falling to $15 or $16 during the dull period. Daily wages were often as high as $1.75 to $2.50 in rush times, falling to $1.00 or $1.25 per day for fall plowing. Day men were paid only for the actual days worked.[16]

A traveler in the wheat country in the winter of 1880 commented upon the conspicuous absence of women and children upon the large wheat farms. "In no case," he wrote, "was the permanent residence of a family to be found upon them, nor anything that could be called a home. In fact the idea of a home does not pertain to them; they are simply business ventures." Few churches and schools were reported, although religious services were often held on the larger farms. Such a service was held on the Grandin Farm, conducted by the book-keeper.[17]

Although the large wheat farms of the Red River country received a great deal of attention during the eighties, their importance was no doubt over-emphasized. While a few made large sums of money from bonanza wheat farming, their big contribution was the advertising that was given to the Red River Valley and to the Territory of Dakota.[18] There were hundreds of farmers in the Red River district who were not satisfied to turn all their land to the production of wheat. In fact, there was far more land owned and farmed by the small farmers than by the large wheat growers. In 1870 there were 1,720 farms in the Territory of Dakota whose average size was 176 acres. In 1880 Dakota had 17,435 farms which averaged 218 acres. In Cass County, the very center of the bonanza wheat country, the farms averaged 326 acres. By 1890 there were in North Dakota 27,611 farms whose size averaged 277 acres. At that time 8.07 per cent of the farm land of North Dakota was planted to wheat.

[16] James H. Blodgett, "Wages of Farm Labor in the United States: Results of 12 Statistical Investigations, 1866–1902," issued by the U. S. Dept. Agriculture, Bur. of Statistics as its *Bulletin 26*. Also the letters cited in footnote no. 15.

[17] Bigelow, *op. cit.*, 33–36.

[18] Thompson, *op. cit.*, 576; Coulter, *op. cit.*, 588.

By 1890 the outlook of the large wheat farmer was not so bright as it had been. The drouth which was local in 1887 and 1888 became widespread in 1889 throughout the central portion of the United States and hit the Red River Valley with exceptional severity. The crop reports for 1890 show a large decrease in the yield of farm products, that of wheat dropping from sixty-two and one-half million bushels to forty-three millions. The panic of 1893 was disastrous to many of the large-scale farmers because of over-expansion on borrowed capital.[19]

But drouth and economic depression were not the only handicaps of the large wheat farmer, in fact they were only temporary setbacks. The real difficulties went far deeper than that. When large-scale farming began in the Red River Valley, wheat was worth around a dollar a bushel. If a fair yield could be obtained on land worth $5.00 per acre the profit was large, but, with the increase in the price of land to $20 or $25 per acre and a marked decline in the price of wheat, the business was not so profitable.

A survey of agricultural products in the United States from 1863 to 1867 shows a decided upward trend in prices. From 1867 to 1889 the general trend, especially of wheat, was downward, broken only by an occasional temporary recovery. The year 1867 marked the highest annual price for wheat since its production had become a recognized feature of American agriculture. Number two spring wheat averaged $1.43 gold in the Chicago market for the year. From 1868 to 1873 prices averaged from $1.30 to $1.00, while from 1873 to 1876 the price ranged from $1.00 to 80 cents. From 1876 to 1880 the average was 79 cents and from 1880 to 1889 the average was 66 cents. Between 1880 and 1890 wheat declined in price 29.1 per cent, while corn declined 16.9 per cent. The average decline in ten staples of common use during those years was 15.3 per cent. At the same time there was a rather steady demand for dairy products. While many of

[19] U. S. Bur. Census, Ninth Census of the United States, Report for 1870, vol. 3, *Statistics of the Wealth and Industry of the United States*, p. 234–235; 1880, p. 36–39; 1890, p. 379–381; D. H. McClure, *Resources of Dakota* (1885), 21–29; F. H. Haggerty, *A Statistical and Political Abstract of Dakota Territory* (1889), 31–32.

the large wheat farmers with capital were able for a time partially to overcome these handicaps by more scientific methods, labor-saving machinery and careful management, a gradual shift from wheat as a single crop to diversified farming was inevitable.[20]

[20] Veblen, *op. cit.*, 68–75; Edward W. Bemis, "The Discontent of the Farmer," in the *Journal of Political Economy*, 1: 193–198 (March, 1893); *Yankton Press and Dakotian*, files from 1876 to 1889.

AN ANNOTATED BIBLIOGRAPHY ON THE MATERIALS, THE SCOPE, AND THE SIGNIFICANCE OF AMERICAN AGRICULTURAL HISTORY

EVERETT E. EDWARDS

The increasing interest in agricultural history as a field of research has led to the compilation of this annotated bibliography on the materials and their collection, the significance, and the scope of American agricultural history. This list is made more necessary because these items are nowhere brought together under one heading in the present compiler's "A Bibliography of the History of Agriculture in the United States," issued by the United States Department of Agriculture as its *Miscellaneous Publication No. 84* (Washington, 1930). Suggestions of pertinent additions to the following list will be appreciated.

BALMER, FRANK E.

"The farmer and Minnesota history." *Minnesota History*, 7: 199–217 (September, 1926).

This paper was prepared for presentation at Castle Rock, Minnesota, on June 16, 1926, as a feature of the fifth annual "historic tour" of the Minnesota Historical Society.

See also the paragraph on Mr. Balmer's efforts to help the county agricultural agents of Minnesota acquire historical backgrounds of their respective communities, in *Minnesota History*, 6: 198 (June, 1925).

See also the information given below under the heading Minnesota Agricultural History and Records.

BEARD, CHARLES A.

"Culture and agriculture." *Saturday Review of Literature*, 5 (13): 272–273 (October 20, 1928).

An essay on what has been termed "the agrarian thesis."

BRUCE, KATHLEEN.

"Materials for Virginia agricultural history." *Agricultural History*, 4: 10–14 (January, 1930).

This paper was presented as part of a symposium on Materials for Southern Agricultural History at the luncheon tendered by the University of North Carolina to members of the Agricultural History Society and guests at Chapel Hill, North Carolina, on December 31, 1929. See also the items by J. G. de R. Hamilton and C. W. Ramsdell.

CARRIER, LYMAN.

"The beginnings of agriculture in America." New York, McGraw-Hill Book Co., 1923. 323 p., illus.

In this connection, see especially ch. 1, Value of Agricultural History, p. 1–12. This chapter has paragraphs on the following topics: beginnings of life; theory of evolution; effects of environment on species; determination of plant history; biological evidence; ancient deposits; historical evidence; philological evidence; origin of food plants; primitive agriculture; plant culture; most food plants domesticated by savages; food of the Lake Dwellers; domestication of animals; early civilizations in dry climates; accumulations of wealth; food essential; conditions favoring development of civilization; great civilized zone; importance of agriculture; division of labor; rural class unappreciated.

DAVIS, LEROY G.

"The study of pioneer life: a communication." *Minnesota History*, 10: 430–433 (December, 1929).

A criticism of descriptions of pioneer life, especially that of the grasshopper plagues in Ole Edvart Rølvaag's *Giants in the Earth; A Saga of the Prairie* (New York, Harper & Bros., 1927).

See also "The Study of Pioneer Life; Two Replies to Mr. Davis," one by Einar Hoidale, the other by J. H. Klovstad, in *Minnesota History*, 11: 63–74 (March, 1930). Also the letter by John Talman under the heading "The Study of Pioneer Life: A Communication," in *Minnesota History*, 11: 185–187 (June, 1930).

[EDWARDS, EVERETT E.]

"Agricultural history in Texas." *Agricultural History*, 5: 129–130 (July, 1931).

A note on the steps which are being taken under the auspices of the Texas Agricultural Workers Association and as a result of the foresight and guidance of T. C. Richardson to preserve the materials for the agricultural history of Texas.

See also the item entitled "Promotes Farm Library; Texas to Preserve its Agricultural Records," in the *New York Times*, May 3, 1931, sect. 3, p. 2.

HAMILTON, J. G. DE ROULHAC.

"Agricultural history materials and their collection." *Agricultural History*, 4: 14–18 (January, 1930).

This paper was given as part of a symposium on Materials for Southern Agricultural History at the luncheon tendered by the University of North Carolina to members of the Agricultural History Society and guests at Chapel Hill, North Carolina, on December 31, 1929. See also the items by K. Bruce and C. W. Ramsdell.

Professor Hamilton's comments are based on his experience in collecting such materials as a part of the Southern Historical Collection at the University of North Carolina. His work in preserving materials for North Carolina history is briefly summarized by Everett E. Edwards in *Agricultural History*, 2: 159 (July, 1928).

See also Professor Hamilton's pamphlet, "A National Southern Collection at the University of North Carolina," a reprint from the *Baltimore Sun*,

March 4, 1928. Also his article on "The Preservation of North Carolina History," in the *North Carolina Historical Review*, 4: 3–21 (January, 1927).

KELSEY, RAYNER WICKERSHAM.

"Description and travel as source material for the history of early agriculture in Pennsylvania." *American Historical Association Annual Report*, 1920: 283–292.

Also in the *Agricultural History Society Papers*, 3: 283–292. Washington, Govt. Print. Off., 1925.

A paper presented before the joint session of the Agricultural History Society with the American Historical Association at New Haven, on December 30, 1922.

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"Possibilities of intensive research in agricultural history." *American Historical Association Annual Report* (1919) 1: 375–383.

Also in the *Agricultural History Society Papers*, 2: 375–383. Washington, Govt. Print. Off., 1923.

This paper, a brief inquiry into the intensive as contrasted with the extensive study of agricultural history, was presented before the joint session of the Agricultural History Society with the American Historical Association at Cleveland, Ohio, on December 29, 1919. The subject is considered under the following headings: 1, Introduction; 2, Method; 3, Materials (Secondary Works; Printed Sources; Manuscript Sources); 4, Results.

[LEGGE, MRS. KATHERINE B.]

"The importance of farm and general store account books in business history." *Business Historical Society Bulletin*, 5 (2): 12–14 (Feburary, 1931).

A statement, equally applicable to agricultural history, of the importance of farm and general store account books to business history, and an account of the collection which is being developed by the Business Historical Society at the George F. Baker Library of the Harvard Graduate School of Business Administration, Soldiers Field, Boston, Massachusetts.

For a similar statement see also the note by Everett E. Edwards entitled "Activities of the Business Historical Society" in *Agricultural History*, 5: 182–184 (October, 1931).

LLOYD, W. A.

"The relation of the county farm bureau and the county agent to the collection of historical data relating to agriculture." *Mississippi Valley Historical Association Proceedings* (1917–18) 9: 441–449 (i.e., *Mississippi Valley Historical Review*, extra no., May, 1919).

A paper presented at a session of the eleventh annual meeting of the Mississippi Valley Historical Association in St. Paul and Minneapolis, May 9–11, 1918. At this time the author was in charge of the county agent work of the States relations service of the United States Department of Agriculture.

[Minnesota agricultural history and records.] *Minnesota History*, 11: 109 (March, 1930).

A brief note stating that plans have been announced for the "establishment of a museum for agricultural history and records on the campus of the department of agriculture of the University of Minnesota."

See also the note on the Minnesota Historical Society's exhibit at the annual State fair for 1930 which centered about the theme of the farmer in Minnesota history, in *Minnesota History*, 11: 442 (December, 1930).

These notes are summarized by Everett E. Edwards under the caption "Agricultural History in Minnesota," in *Agricultural History*, 5: 129 (July, 1931).

See also the information given above in connection with the item by F. E. Balmer.

NEVINS, ALLAN.

"Some neglected aspects of settler life." *Indiana History Bulletin*, 6 (extra no. 2): 113–127 (May, 1929).

An address presented at the annual dinner of the Society of Indiana Pioneers at Indianapolis, December 8, 1928, as part of the tenth annual Indiana History Conference.

Commented on in *Minnesota History*, 10: 341–343 (September, 1929).

The author holds that "a great many important topics on early settler life are and will remain mysteries to city dwellers of today until more writing of a careful, thorough, and yet easily mastered nature is done." He raises questions on the following topics: the elements of population; the log cabin; the location of the settler; the food of the settler; settler ailments; speech.

RAMSDELL, CHARLES W.

"Materials for research in the agricultural history of the Confederacy." *Agricultural History*, 4: 18–22 (January, 1930).

This paper was presented as part of a symposium on Materials for Southern Agricultural History at the luncheon tendered by the University of North Carolina to members of the Agricultural History Society and guests at Chapel Hill, North Carolina, on December 31, 1929. See also the items by K. Bruce and J. G. de R. Hamilton.

SCHAFER, JOSEPH.

"A rural life survey of a western State." *The Trans-Mississippi West* (Boulder, Univ. Colorado, 1930), edited by James F. Willard and Colin B. Goodykoontz, p. 291–308.

A mature statement of the quest in Wisconsin "for a group of sources of universal availability and applicability which might serve to establish a significant outline of the history of any agricultural area in the state."

See also the same author's "The Wisconsin Domesday Book in Agricultural History," in the American Historical Association *Annual Report*, 1921: 220–221. It is an abstract of a paper presented on December 28, 1921, at the joint session of the Agricultural History Society with the American Historical Association at St. Louis. "The Wisconsin Domesday Book has been described as a plan by which the history of local communities in Wisconsin, and first of all rural communities, shall be studied intensively." Utilization of the methods advocated will do much toward remedying the deficit in exact knowledge of the beginnings of rural life. "The records used, and the process of study of rural towns, make possible certain generalizations about the agricultural history of Wisconsin." Therein lies the significance of this project and its methods for agricultural historians.

Supplement with Dr. Schafer's article on "The Wisconsin Domesday

Book," in the *Wisconsin Magazine of History*, 4: 61–74 (September, 1920), in which he suggests "a plan for a future great history of Wisconsin which should reach very much further down in the social life of the state than any history that has yet been produced. The aim would be . . . to gather such abundant materials about our Wisconsin population as would enable us ultimately to point to the influence upon Wisconsin history of even very local and seemingly humble individuals who have contributed ideas or developed processes that helped forward the civilization of the state." The domesday book is to consist of a plat book or atlas, giving the names of early settlers and lands occupied by them, with accompanying text. See also the same author's address on "The Microscopic Method Applied to History," read on January 17, 1921, at the annual meeting of the Minnesota Historical Society in St. Paul, and printed in the *Minnesota History Bulletin*, 4: 3–20 (February-May, 1921).

See also Dr. Schafer's notes on "Co-operation between the State Historical Society and Local Societies," in the *Wisconsin Magazine of History*, 4: 200–207 (December, 1920), especially the paragraphs under the captions: a method for local history study; data about the land and the people; and and the study of local progress. See also his essay on "Documenting Local History," in the *Wisconsin Magazine of History*, 5: 142–159 (December, 1921), in which he illustrates by a study of the town of Newton the possibilities of the methods suggested in the above articles.

The circular by Dr. Schafer called *Schedule for the Study of Local History of Wisconsin Rural Towns* (Madison, State Historical Society of Wisconsin, 1926. 6 p.) indicates one of the ways the State Historical Society of Wisconsin is gathering historical material on rural Wisconsin.

The mimeographed circular on the *Teachers' Pictorial Survey of Rural Wisconsin a Century after the Black Hawk War* affords information on a project sponsored by the State Historical Society in consultation with the College of Agriculture of the University of Wisconsin, the State Superintendent of Public Instruction, and the Wisconsin Journal of Education which will give pictorial data invaluable to agricultural historians.

SCHMIDT, LOUIS BERNARD.

"The economic history of American agriculture." *Topical Studies and References on the Economic History of American Agriculture* (Rev. ed. Philadelphia, McKinley Publishing Co., 1923), p. 9–26.

This valuable summary of the scope and significance of American agricultural history is reprinted in L. B. Schmidt and E. D. Ross, *Readings in the Economic History of American Agriculture* (New York, Macmillan Co., 1925), p. 16–27. It is an adaptation of Prof. Schmidt's paper on "The Economic History of American Agriculture as a Field for Study," read at the annual meeting of the American Historical Association in Washington, D. C., in December, 1915, and printed in the *Mississippi Valley Historical Review*, 3: 39–49 (June, 1916). An abstract of this paper is printed under the title, "Agriculture as a Field for Historical Research," in the American Historical Association *Annual Report* 1920: 161–162. Also an adaptation of the same author's article on "An Unworked Field of Mississippi Valley History," in the *Iowa Journal of History and Politics*, 21: 94–111 (January,

1923). Another version is given in the same author's article on "The Economical History of American Agriculture as a Field for Study," in the *Historical Outlook*, 10: 8–12 (January, 1919).

The following are among the topics considered: fundamental significance of the economic history of American agriculture; some problems in the economic history of American agriculture,—the history of the public lands, the history of leading agricultural industries, the history of agriculture in the various states, the history of the transportation and marketing of agricultural products, the history of farmers' organizations, the history of agricultural education, the biographies of leading men who have contributed to the advancement of agriculture; indications of an awakening interest in agricultural history,—agriculture as the leading occupation; relation of the economic history of agriculture to the political and constitutional history of the United States; the economic history of agriculture as a necessary background for the development of a sound and farsighted rural economy; the economic history of agriculture as part of a well-balanced history of the nation.

[SHELDON, LYNN].

"The farmer and local history." *Minnesota History*, 6: 21–22 (March, 1925).

A brief summary of a talk on the value of local history to farmers by the county agricultural agent of Redwood Falls County, Minnesota.

See also the paragraph on the efforts of F. E. Balmer to help the county agricultural agents of Minnesota acquire the historical background of their respective communities, in *Minnesota History*, 6: 198 (June, 1925).

STONE, ALFRED HOLT.

"Some problems of southern economic history." *American Historical Review*, 13: 779–797 (July, 1908).

Suggestions of certain lines of thought which have occurred to the author in connection with a study of the relative influence of the institution of slavery, the negro, the white man, and physiography as factors in the economic life of the Southern states.

This paper is reprinted in L. B. Schmidt and E. D. Ross, *Readings in the Economic History of American Agriculture* (New York, Macmillan Co., 1925), p. 274–292.

Supplement with Ulrich Bonnell Phillips's article on "The Central Theme of Southern History," in the *American Historical Review*, 34: 30–43 (October, 1928), and Avery O. Craven's article on "The South in American History," in the *Historical Outlook*, 21: 105–109 (March, 1930).

TAYLOR, RAYMOND G.

"Some sources for Mississippi Valley agricultural history." *Mississippi Valley Historical Review*, 7: 142–145 (September, 1920).

TRIMBLE, WILLIAM JOSEPH.

"The agrarian history of the United States as a subject for research." *History Teacher's Magazine*, 6: 135–137 (May, 1915).

A revision of a paper read before the joint meeting of the Mississippi Valley Historical Association and the American Historical Association at Chicago, on December 30, 1914, and printed with the same title in the *Mississippi Valley Historical Association Proceedings* (1914–15) 8: 81–92.

NEWS NOTES AND COMMENTS

DECEMBER MEETING OF AGRICULTURAL HISTORY SOCIETY

The Agricultural History Society met with the American Historical Association and other historical societies at Minneapolis on December 28–30, 1931. The joint session of the Agricultural History Society and the American Historical Association on Monday afternoon, December 28, was an unusually successful one. The papers by Professors Gates and Briggs, printed in this number, together with the formal comments on them, stimulated considerable discussion, especially on the causes and desirability of large-scale farming. Professor James C. Malin of the University of Kansas presented a paper on "The Background of the First Bills to Establish a Bureau of Markets, 1911." Dr. Joseph Schafer has written the secretary "that the meeting of our society proved so interesting that the room was crowded to capacity, numbers standing up, and the discussion continued so long that I had arbitrarily to close it at five o'clock." On Monday evening, the Agricultural History Society joined the Mississippi Valley Historical Association at a dinner where Professor Frederic Logan Paxson of the University of Wisconsin gave an effective address on "The Agricultural Surplus and the Historical Problem" on behalf of the Society, Professor Thomas Jefferson Wertenbaker of Princeton University speaking for the Association.

ARTICLES

Among the recent articles of interest to readers of AGRICULTURAL HISTORY are the following: "Jardin et Parc," an exhaustive, encyclopedic treatment of the garden and park in Jewish life and literature, by Immanuel Löw, in *Revue des Études Juives* for January-March, 1931; "Sleds, Carts and Wagons," a study of the evolution of these machines, by Cyril Fox, in *Antiquity* for June, 1931; "La Moisson à travers les Ages," by Jacques Boyer, in

La Nature for July 15, 1931; "A Story of Cheese and Cheese-making," by Walter J. Venske, in *Hoard's Dairyman* for October 10, 1931; and "Geographical Trends in Sugar Production," by C. J. Robertson, in the *Geographical Review* for January, 1932; "The Story of Tobacco," a series by Katharine Atherton Grimes, in the *Southern Agriculturist*, beginning with September, 1931.

Articles on colonial United States are: "British Policy and Colonial Money Supply," by Curtis Nettels, in the *Economic History Review* for October, 1931; "Shays's Rebellion," a letter of 1782 describing the unrest in western Massachusetts, edited by E. F. Brown, in the *American Historical Review* for July, 1931; "Transportation and Travel in Colonial New Jersey," by R. P. Powell, Jr., in the *Proceedings* of the New Jersey Historical Society for July, 1931; "White Servitude in the American Colonies," by Sister Margaret Patricia, in the *Records* of the American Catholic Historical Society for March, 1931; "Slavery and White Servitude in East Florida, 1726 to 1776," by W. H. Siebert, in the *Florida Historical Society Quarterly* for July, 1931; "Revolutionary Virginia and the Crown Lands (1775–1783)," by C. H. Laub, in the *William and Mary College Quarterly Historical Magazine* for October, 1931; "A Chain of Woodstock Land Titles," by Bruno Louis Zimm, in the Woodstock (N. Y.) Historical Society *Publications* for August, 1931; and "Connecticut's Experiment in Expansion; the Susquehannah Company, 1753–1803," by J. P. Boyd, in the *Journal of Economic and Business History* for November, 1931.

Articles on the United States since about 1800 are: *The Record of Twenty Years Vocational Agriculture in New York State, 1911–1931* (Albany, Brandow Printing Co., 1931. 79 p., illus.), published by the Association of Teachers of Agriculture of New York and presented at the twentieth annual meeting at the State Institute of Applied Agriculture, Farmingdale, N. Y., June 29–July 3, 1931; "Historic Rural Pennsylvania," by George F. Johnson, and other articles in *Pennsylvania Progress* for August-September, 1931; "A Plantation Retrospect," by William Cabell Bruce, in the

Virginia Quarterly Review for October, 1931; "History of Fauquier County Agricultural Society," by H. M. Luttrell, in the *Loudoun-Fauquier Magazine* for the fall issue, 1931; "Qualitative Selection in Cityward Migration," a study of rural-city migration in a sample in Albemarle County, Virginia, by Wilson Gee and Dewees Runk, in the *American Journal of Sociology* for September, 1931; "Human Aspects of the Geography of the American South," by Rupert B. Vance, issued by the University of North Carolina as its *Extension Bulletin* for May, 1931; "An Account of the Southern Commercial Convention at Savannah, 1856," by Herbert Wender, in the *Georgia Historical Quarterly* for July, 1931; "The Overland Movement of Cotton, 1866–1886," by J. L. Waller, in the *Southwestern Historical Quarterly* for October, 1931; "The Significance of Drain Tile in Indiana," by W. LeRoy Perkins, in *Economic Geography* for October, 1931; "A Pioneer Home" in Iowa, by Susan I. Dubell, in the *Palimpsest* for December, 1931; "Types of Farming in Kansas," by J. A. Hodges, F. E. Elliott, and W. E. Grimes, and issued in August, 1930, by the Kansas Agricultural Experiment Station as its *Bulletin 251*; "The Problem of Hands on the Spur Ranch," by W. C. Holden and "A Log of the Texas-California Cattle Trail," by James G. Bell (edited by J. Evetts Haley), both in the *Southwestern Historical Quarterly* for January, 1932; "The Cattle Range Goes Modern," the story of the King Ranch at Kingsville, Texas, by Joseph Martin Dawson, in the *Nation's Business* for November, 1931; "Agricultural Regions of North America; Part 10, The Grazing and Irrigated Crops Region," first installment, by Oliver E. Baker, in *Economic Geography* for October, 1931; "A Description of Umpqua Agriculture in 1851," by Jesse Applegate, in the *Oregon Historical Quarterly* for June, 1931; "Reclamation and Development in the Sacramento-San Joaquin Delta," by George A. Atherton, in *Agricultural Engineering* for April, 1931; "Mechanization of Agriculture as a Factor in Labor Displacement," in the U. S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review* for October, 1931; "Recent Trends in Federal Aid to the States," by Austin F. MacDonald, in the *American Political Science Review* for August, 1931; "The Pacific Railroad Company,"

by Dorothy Jennings, in the Missouri Historical Society *Collections* for 1931; "Western Railroad Pools," by Robert E. Riegel, in the *Mississippi Valley Historical Review* for December, 1931; "Railroad History in the Past Decade," by N. L. Smith, in *Current History* for September, 1931; "Preëmption—A Frontier Triumph," by Roy M. Robbins, in the *Mississippi Valley Historical Review* for December, 1931; "Economic Aspects of Conservation," by Conrad H. Hammar, in the *Journal of Land and Public Utility Economics* for August, 1931; "The Rise of a Great Wheat Market" at Kansas City, by Frank A. Theis, in the *Southwestern Miller* for August 11, 1931; "Farm Relief and Its Antecedents," by Rayner W. Kelsey, in the *Historical Outlook* for December, 1931.

Articles on the agriculture of the British Isles are: "The Glacial Drifts of Essex and Hertfordshire, and Their Bearing upon the Agricultural and Historical Geography of the Region," by S. W. Wooldridge and D. J. Smetham in the *Geographical Journal* for September, 1931; "Organization of Farming at Croyland Abbey, 1257–1321," by Mildred Wretts-Smith, in the *Journal of Economic and Business History* for November, 1931; "Lectures on Social History; English Rural Life in the Fifteenth Century," by James Westfall Thompson in the *Rice Institute Pamphlet* for April, 1930; and "A Select Bibliography of Irish Economic History; Part 1, From the Earliest Times to the Sixteenth Century," in the *Economic History Review* for October, 1931.

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Géographie Humaine (Paris, Armand Colin, 1931. 415 p., illus., maps, bibliog.); and *La Transhumance Pyrénéenne et la Circulation des Troupeaux dans les Plaines de Gascogne* (Paris, Armand Colin, 1931. 133 p., maps, bibliog.).

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